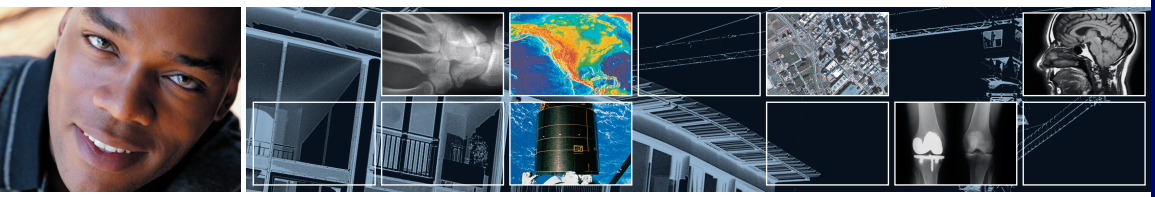
matrox Parhelia™ Precision SGT

High Fidelity Graphics™



ENGLISH

User Guide

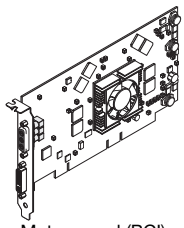
10881-301-0100
2003.12.15

matrox
www.matrox.com/mga

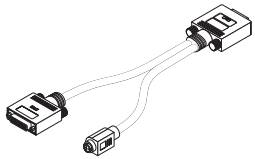
Overview

Thank you for purchasing a Matrox Parhelia Precision SGT (Satellite Graphics Technology) graphics card. Your Matrox card is a high-performance graphics card that plugs into an expansion slot inside your personal computer. Your Matrox graphics card supports DualHead features and OpenGL stereo-output. With DualHead features, you can use an analog grayscale monitor (for example, a Siemens 21105 or 21106 grayscale monitor) and, at the same time, a standard analog or digital computer monitor.

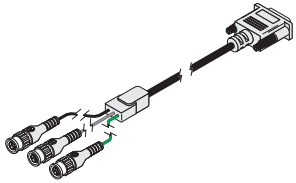
Hardware supplied



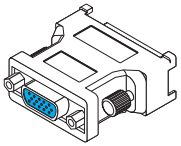
Matrox card (PCI)



1 stereo-output adapter
(DVI to DVI + Stereo)



1 3W3 cable
(3W3 to 3 × BNC)



1 DVI-to-HD15 adapter

Software supplied (for Windows 2000/XP)

- **Matrox PowerDesk-SE** – to use your Matrox graphics hardware
- **Other software** – see the CD-ROM *Readme* file

Installation overview

Note: If your Matrox product is already partially or fully installed on your computer, some or all the installation information in this guide may not apply to you. However, this information may be useful if you need to reinstall your Matrox product.

To install your Matrox product:

1. Install the Matrox card – see "Hardware installation", page 3.
2. Connect your monitors – see "Connection setup", page 5.
3. Install the software – see "Software setup", page 7.

Hardware installation

This section describes how to install your Matrox card. For information specific to your computer, like how to remove its cover, see your system manual.

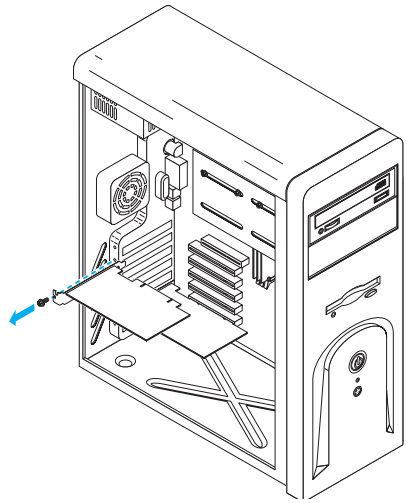
WARNING: To avoid personal injury, turn off your computer, unplug it, and then wait for it to cool before you touch any of its internal parts. Also, static electricity can severely damage electronic parts. Before touching any electronic parts, drain static electricity from your body (for example, by touching the metal frame of your computer). When handling a card, carefully hold it by its edges and avoid touching its circuitry.

1 Open your computer and remove your existing graphics card*

If a graphics card ***isn't*** already installed in your computer, skip to step 2.

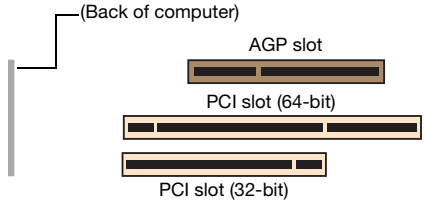
a Turn off your computer and all peripherals such as your monitor or printer.

b Open the computer and remove your existing graphics card (if any). (If graphics hardware is built into the motherboard of your computer, this graphics hardware should automatically disable itself after your Matrox card is installed.)



2 Choose a PCI slot

a Most computers have different types of expansion slots. Choose a PCI slot for your graphics card. Your system manual should identify the location of each type of expansion slot in your computer.



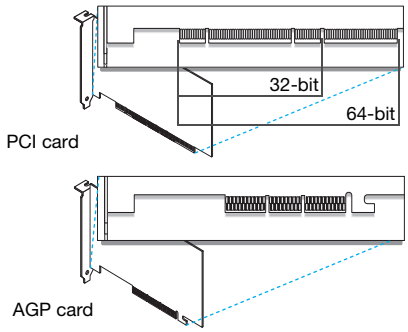
b Remove the cover for the slot you intend to use (if it's not already removed). Save the screw for the mounting bracket. (If another slot is uncovered, you can seal it with the cover you just removed.)

* With multi-display mode, you may be able to use your existing graphics card. For Windows 2000/XP, see Windows 2000/XP online help under "Install additional monitors".

Note: If you're using a PCI graphics card in a PCI-X compatible slot, your choice of PCI slot may affect your card or system performance. For more information, see your computer manual.

WARNING: Inserting your Matrox card into the wrong type of slot could damage your card, your computer, or both.

If you're using a 32-bit PCI slot, only part of your card's edge connector should be inserted into the PCI slot (the part closest to the back of the computer).

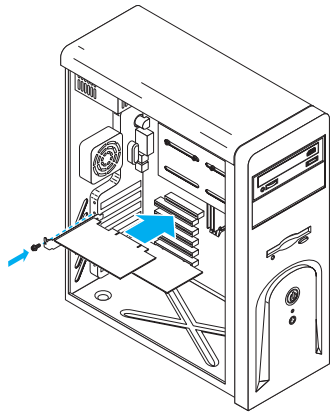


3 Insert your Matrox card

a Position your Matrox card over the expansion slot you've chosen.

b Push the card in firmly and evenly until it's fully seated in the slot.

c Replace the screw to secure the bracket of your Matrox card to the computer frame.



Your Matrox card is now installed. ***Before restarting your computer,*** connect your monitor or monitors (see "Connection setup", page 5). ***After connecting,*** restart your computer and install your Matrox software (see "Software setup", page 7).

WARNING: If your computer doesn't restart after your graphics card is installed, turn off your computer to avoid damaging electronic parts. For troubleshooting information, see page 9.

Connection setup

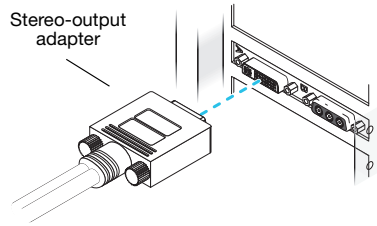
This section describes how to connect your monitors and your stereo device to your Matrox graphics card.

WARNING: Don't change monitor connections while your computer is turned on. While your computer is turned on, it may be using monitor settings that are specific to the current monitor connections. ***Some*** devices may be permanently damaged if incorrect settings are used.

WARNING: If an unsupported monitor is used with your Matrox product, this monitor may be permanently damaged. For standard computer monitors, your monitor should support Plug-and-Play and a display resolution of 1280 × 1024. For analog grayscale monitors, a list of supported monitors is available on the Matrox Web site (www.matrox.com/mga).

1 Connect the stereo-output adapter

Connect the stereo-output adapter to the main connector (**A**) on your graphics card. If you already have a monitor connected to the main connector, disconnect that monitor and, if present, disconnect the DVI-to-HD15 adapter.

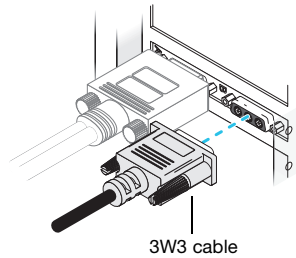


Note: To use stereo-output with your Matrox product, you need to connect the stereo-output adapter even if you're only using an analog grayscale monitor.

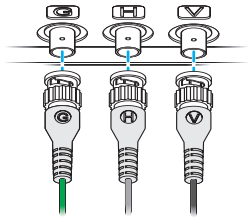
2 Connect your analog grayscale monitor

Connect the 3W3 cable included with your Matrox product to the secondary connector (**B**) on your Matrox card.

Connect the BNC connectors on your 3W3 cable to your analog grayscale monitor.

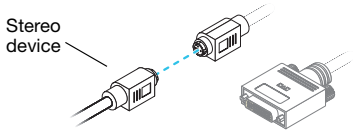


Note: When connecting the BNC connectors on your 3W3 cable to your monitor, make sure the Green (**G**), Horizontal Sync (**H** – gray wire), and Vertical Sync (**V** – black wire) connections are firmly in place and plugged into the correct input.



3 Connect the stereo device

Connect your stereo device (for example, your 3D glasses) to the stereo connector (mini DIN, 3 pins) on your stereo-output adapter.

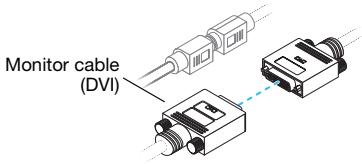


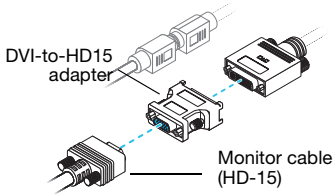
4 Connect your standard computer monitor (optional)

Connect your standard analog or digital computer monitor to the main connector (DVI) on the stereo-output adapter.

If your monitor has a DVI connector, connect it directly to the main connector (DVI) of your adapter.

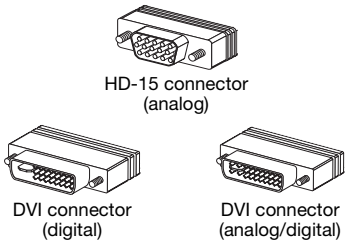
If your monitor has an HD-15 connector, use the DVI-to-HD15 adapter included with your Matrox product to connect your monitor to the main connector.





Note: To connect a *digital* monitor (a monitor that uses digital input, usually a flat panel monitor) to your Matrox product, your monitor must have a DVI connector.

Some monitors with DVI connectors support both digital and analog input. If you're using one of these monitors with your Matrox product, make sure it's configured to use the correct type of input. For more information, see your monitor documentation.

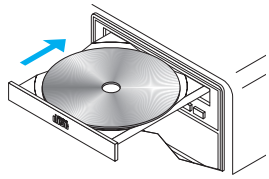


Make sure the connectors are firmly in place. Your Matrox card is now installed. Restart your computer and install your Matrox software (see "Software setup", page 7).

Software setup

W This section describes how to install Matrox software for ***Windows 2000/XP***. (For other operating systems, see the *Readme* file in the root folder of the Matrox installation CD-ROM.)

You may need administrator rights to install certain software. For more information, see Windows documentation.



1 Install display driver

Windows detects new hardware when you restart. If Matrox display drivers haven't been previously installed, Windows prompts you to install a display driver. Follow the on-screen instructions. (The Matrox Windows 2000/XP display driver is in the *Win2kXP* folder of your Matrox installation CD-ROM.)

2 Install optional software

After your computer restarts, the setup program shows you a list of additional items you can install. Follow the on-screen instructions.

3 Configure your monitor settings

To take full advantage of your graphics card, make sure you have the correct monitor settings selected in Windows for ***each*** of your monitors:

a Right-click your Windows desktop background, then click **Properties → Settings → Advanced → Monitor**. If you're using a multi-display desktop, select a display before clicking **Advanced**.

b If "**Hide modes that this monitor cannot display**" is available, make sure it's enabled. Under **Screen refresh rate**, select the highest refresh rate listed.

c Click **OK → OK**.

For more information on Windows monitor settings, see Windows documentation.

WARNING: If incorrect software monitor settings are applied, ***some*** monitors can be permanently damaged. For more information, see your monitor manual.

Note: Settings for your analog grayscale monitor are preconfigured in the display driver. If an unsupported monitor is used with your Matrox product, this monitor may be permanently damaged. A list of supported analog grayscale monitors is available on the Matrox Web site (www.matrox.com/mga).

4 Set up your display software

Use Matrox PowerDesk software to change certain display settings or access Matrox features. To access PowerDesk, double-click its icon ( ) on your Windows taskbar. To see the PowerDesk icon in Windows XP, you may need to click the **Show hidden icons** button ( ) on your Windows taskbar. For more information on how to use Matrox PowerDesk, see the online help.

5 Using multiple displays in independent mode

If you want to use a standard computer monitor and an analog grayscale monitor, you may want to modify your multi-display setup to use independent mode. In *independent* mode, you can select a separate resolution, color palette, and relative virtual position for each display. To enable independent mode, from Matrox PowerDesk, click **Multi-Display Setup → Matrox Parhelia Precision SGT → 2 displays, Independent mode → OK**. You need to restart your computer for changes to take effect.

6 Using stereo in independent mode

If you're using multiple displays in independent mode and you want to use stereo-output with your grayscale monitor, you need to set the display associated with your grayscale monitor as the main display.

a Right-click your Windows desktop background, then click **Properties → Settings**.

b Select the second display associated with your Matrox graphics card.

c Make sure "**Use this device as the primary monitor**" is enabled.

d Click **OK**. You may need to restart your computer for the changes to take effect.

Troubleshooting

Basic procedures

This section explains basic procedures that are referred to by some troubleshooting items in this guide.

W Restarting in VGA mode

Windows 2000/XP – What follows is information on how to restart your computer in *VGA mode*.

If your primary display is ***usable***:

1. Restart your computer, click **Start → Shut Down → Restart → OK**.
2. ***Before*** Windows starts, press [F8] for the Windows startup menu to appear. (If [F8] doesn't work, instead try pressing and holding [Ctrl] before Windows starts.)
3. Select "VGA mode", then press [Enter].

If your primary display is ***unusable***:

1. Restart your computer. For more information, see your system manual.
2. ***Before*** Windows starts, press [F8] for the Windows startup menu to appear.
3. Select "VGA mode", then press [Enter].

Main troubleshooting

This section addresses possible problems that could prevent you from using your computer.

Problem **Computer doesn't display information or boot after Matrox card is installed**

Cause Your Matrox card may not be properly installed.

Solution Make sure your Matrox card is properly installed. Specifically, make sure the card is firmly inserted in its expansion slot and that all connections to it are firmly in place. For more information, see "Hardware installation", page 3.

Cause There may be unsupported graphics hardware in your computer.

Solution If an unsupported graphics card is plugged into an expansion slot, remove it.

Solution If a graphics adapter is built into your computer motherboard, your system may not have automatically disabled it when you inserted your Matrox card. Check your system manual for instructions on how to disable your computer's built-in graphics adapter.

Cause You may have connected only a standard computer monitor that doesn't support Plug-and-Play.

Solution Use a standard computer monitor that supports Plug-and-Play or use a grayscale analog monitor.

Cause Your computer BIOS (Basic Input/Output System) settings may be incorrect.

Solution Change your BIOS settings, specifically the *AGP aperture size*. For more information on your computer BIOS, see your system manual.

Cause Your computer BIOS may not be up to date. For more information on your computer BIOS, see your system manual.

Solution Reinstall your previous graphics card and, if possible, update your computer BIOS. This can usually be done with software from the manufacturer of your computer. Contact your system vendor or manufacturer to get a BIOS update for your computer.

To get the correct BIOS update, you may need to know the serial number your computer displays when it restarts. (This number is usually in the lower-left corner of the display.)

Cause The BIOS of your Matrox graphics card may need to be updated or restored.

Solution **For advanced users** – If you have another VGA-compatible graphics card (PCI), you can try resetting the BIOS of your Matrox graphics card.

1. Turn off your computer and insert the other graphics card into an expansion slot. For more information on expansion slots, see "Choose a PCI slot", page 3.
2. Plug your monitor into the other graphics card and restart your computer.

Note: Make sure your computer uses the other graphics card to control your primary display. The graphics card that controls your primary display is the one that first displays information when you restart your computer.

Your computer BIOS (Basic Input/Output System) and the slot type (PCI, or AGP – see "Choose a PCI slot", page 3) of each graphics card help determine which graphics card controls your primary display.

To control which graphics card is used for your primary display, you may be able to change the configuration of your computer BIOS. For information on how to change your computer BIOS settings, see your system manual.

3 Insert your Matrox installation CD-ROM.

4 Click **Start → Run**, type *D:\Sysutils*. You will need to use the **PBIOSWin** program to update the BIOS of your Matrox graphics card. For more information on how to use this program, see the *Readme* file in the *Sysutils* folder.

5 Turn off your computer, remove the other graphics card, then plug your monitor into your Matrox graphics card.

6 Restart your computer.

Cause The power supply of your computer may not be powerful enough for all the devices on your computer.

Solution **For advanced users** – Remove unnecessary devices from your computer (for example, an unused network card or an extra CD-ROM drive). For more information, see your system manual or the documentation for each device.

Solution You may be able to upgrade the power supply of your computer. We recommend a power supply of 300 Watts or more. For more information, contact your computer vendor.

Problem Wrong color balance, screen image off-center, or no picture at all

Cause Your monitor video controls may be improperly set.

Solution Adjust your monitor controls (brightness, contrast, and so on). For more information, see your monitor manual.

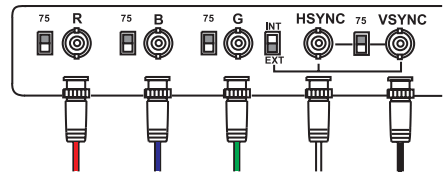
Cause Your monitor may not be properly connected.

Solution Make sure you're using the correct connectors (see "Connection setup", page 5) and that all connectors are properly fastened.

Solution Make sure the monitor power cable is firmly in place.

Solution Make sure the connection to the back of the monitor is firmly in place.

If your monitor uses BNC input, make sure the Red (**R**), Blue (**B**), Green (**G**), Horizontal Sync (**HSYNC** – white or gray wire), and Vertical Sync (**VSYNC** – black wire) connections are firmly in place and plugged into the correct input.



Bayonet Nut Connect (BNC)

Cause If your monitor uses BNC input, one or more connection settings may be incorrect.

Solution Set each of your monitor RGB input and sync switches (if available) to 75 ohms, with the sync set to "external". These controls are usually switches on the back of your monitor.

Cause If display problems occur after the startup screen of your operating system, your software monitor settings may be incorrect.

Solution Make sure correct software monitor settings are selected.

If your primary display is still usable, see "Configure your monitor settings", page 7. Otherwise, see the next troubleshooting item.

Cause If you're using an analog grayscale monitor, it may not support the monitor settings used by your graphics card.

Solution Make sure your Matrox product supports your analog grayscale monitor. For more information on what monitors your Matrox product supports, see the Matrox Web site (www.matrox.com/mga).

Solution You may be able to obtain a software upgrade to support your analog grayscale monitor. For more information, see "Customer support", page 30.

Problem After the startup screen, or after display settings are changed, the screen image is garbled or unusable

(blank screen, rolling or overlapping screen images)

Cause The Matrox display driver may be trying to use settings your monitor doesn't support. This can happen if a monitor was never selected in the software and the display resolution was changed to one your monitor doesn't support, or if the monitor connected to your computer was changed without changing it in the software.

> WARNING: If incorrect software monitor settings are applied, ***some*** monitors can be permanently damaged. For more information, see your monitor manual.

Solution

Windows 2000/XP –

1. If your primary display is unusable, restart your computer in VGA mode (see "Restarting in VGA mode", page 9).
2. Right-click your Windows desktop background, then click **Properties → Settings**.
3. Move the **Screen area** (Windows 2000) or **Screen Resolution** (Windows XP) slider down to its lowest setting, then click **OK**.
4. Restart your computer normally.

5 Make sure the correct monitor is selected in Windows (see "Configure your monitor settings", page 7).

6 Restore your original display settings (see steps 2 and 3).

Cause Files on your system may have been deleted or corrupted.

Solution Remove, then restore Matrox software:

> **Note:** Before removing software, make sure you have all the necessary files to reinstall software that may still be needed.

> **Note:** **Windows 2000/XP** – You may need administrator rights to remove certain software. For more information, see Windows documentation.

Windows 2000/XP –

1 If your primary display is unusable, restart your computer in VGA mode (see "Restarting in VGA mode", page 9).

2 To remove Matrox software:

   a Click **Start → Settings*** **→ Control Panel → Add/Remove Programs** (double-click*) **→ Matrox PowerDesk-HF and Driver → Change/Remove → Yes**. (* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

   b Click **No** if you're asked to restart your computer.

   c Click **Matrox PowerDesk-SE → Change/Remove → Yes**.

3 Restart your computer.

4 After removing Matrox software, install the latest display driver for your Matrox graphics card. You may also need to reinstall other Matrox software.

Cause You may be using a standard monitor that doesn't support a display resolution of 1280 × 1024.

Solution Use a computer monitor that supports 1280 × 1024.

> **Note:** Be sure to check for any last-minute release notes at the end of this manual and in the Matrox CD-ROM *Readme* file. Also, check the Matrox Web site (www.matrox.com/mga) for the latest Matrox software, technical support, and product information.

Extra troubleshooting

Graphics

The following troubleshooting items address problems related to graphics cards.

Problem Can't use Windows, Windows reports a configuration error, and/or can't install or uninstall Matrox display driver

Note: **Windows 2000/XP** – You may need administrator rights to install certain software. For more information, see Windows documentation.

Cause The problem may be specific to the motherboard in your computer.

Solution There may be a software update available for your motherboard. To find out what motherboard model your computer is using, see your system manual. For more information, contact the maker of your motherboard or computer. Many motherboard or computer manufacturers have software updates available on their Web site.

Cause Files on your system may have been deleted or corrupted.

Solution Remove, then restore Matrox software. For more information, see page 13.

Problem Monitor settings aren't automatically detected

WARNING: If incorrect software monitor settings are used, your display may become unusable and ***some*** monitors can be permanently damaged. For more information, see your monitor manual.

Note: Settings for your analog grayscale monitor are preconfigured in the display driver. If an unsupported monitor is used with your Matrox product, it may be permanently damaged. A list of supported analog grayscale monitors is available on the Matrox Web site (www.matrox.com/mga).

Note: **Windows 2000/XP** – To check if your monitor settings are properly selected:

1. Right-click your Windows desktop background, then click **Properties** → **Settings** → **Advanced** → **Monitor**. If you're using multiple displays in *independent* mode, select a display before clicking **Advanced**.
2. For Plug-and-Play monitors:
   - If you see the name of your monitor or "Plug-and-Play", your monitor settings are properly selected.
   - If you see the wrong monitor name or **Default monitor**, your monitor settings aren't properly selected.

   For non Plug-and-Play monitors (monitors using BNC connectors don't support Plug-and-Play), you have to manually select your monitor settings. For more information, see "Configure your monitor settings", page 7.

Cause Your monitor may not be Plug-and-Play. Most new monitors are Plug-and-Play but many older ones aren't. Software can't automatically detect settings for monitors that aren't Plug-and-Play.

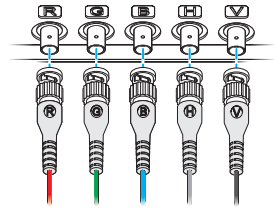
Solution Manually select your monitor settings in the software. For more information, see "Configure your monitor settings", page 7.

Cause If a monitor was changed or added while Windows was running, the new monitor may not be detected by the software.

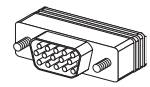
Solution Restart your computer. If your monitor is a Plug-and-Play (DDC) monitor, it should be automatically detected by the software.

Cause You may be using BNC connectors with a Plug-and-Play monitor. The Plug-and-Play feature of a monitor can't be used with BNC connectors.

Solution If you're using a standard analog monitor with an HD-15 connector at the back of the monitor, use this connector instead of the BNC connectors.



BNC (Bayonet Nut Connect) connectors

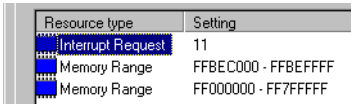

HD-15 connector

Problem 3D and video programs don't work

Cause Your computer may not have given an interrupt request (IRQ) to your Matrox graphics card or may have given one used by another device in your computer. This may be because your computer's "Plug-and-Play" feature is turned off.

W **Windows 2000/XP** – To check the display adapter's IRQ:

1. Click **Start** → **Settings*** → **Control Panel** → **Performance and Maintenance*** → **System** (double-click*) → **Hardware** → **Device Manager**. (* Depending on your version and configuration of Windows, this part of the step may not be necessary.)
2. Click the plus sign to the left of the **Display adapters**. An "**X**" through an icon means the hardware has been disabled. A circled exclamation point through the icon means the hardware has a problem.
3. Double-click the name of your Matrox display adapter to open a properties dialog box. The type of problem is displayed in the **General** tab → **Device status** area. Check also the **Resources** tab → **Resource type** list for an **Interrupt Request**.



Solution Change settings in your computer BIOS setup utility.

If your computer has the options of enabling Plug-and-Play detection, or assigning an IRQ to a VGA adapter, make sure they're enabled. If your computer doesn't have these options, you may be able to manually assign an IRQ to your graphics card using the BIOS setup utility.

For more information on the BIOS setup utility of your computer, see your system manual or contact your system manufacturer.

Cause Your computer's other BIOS settings may be incorrect.

Solution Reset your computer BIOS settings to the factory defaults using your computer's built-in BIOS setup utility. The factory defaults are usually the "safest" settings. Check your system manual for more information.

Problem W — Using multiple displays under Windows 2000/XP, program doesn't work with main graphics card

Cause Your main graphics card may not be controlling your primary display. The graphics card that controls your primary display is the one that first displays information when you restart your computer.

A program that doesn't recognize multiple displays may not work with a graphics card unless it's controlling your primary display.

Your computer BIOS (Basic Input/Output System) and the slot type (PCI, or AGP – see "Choose a PCI slot", page 3) of each graphics card help determine which graphics card controls your primary display.

Solution If you're having problems with a program that can be moved on your Windows desktop, run this program on your primary display. Make sure the program window doesn't overlap any other display. If the program doesn't work with the graphics card controlling your primary display, or you want your main graphics card to control your primary display, see the other solutions.

Solution Change the configuration of your computer BIOS so that the slot type of your main graphics card has priority for becoming the primary display. For information on how to change your computer BIOS settings, see your system manual.

If your computer BIOS doesn't let you select which slot type has priority for becoming the primary display, a BIOS update may be available to let you do this. (The BIOS of most computers can be updated with software.) For a possible BIOS update for your computer, contact your system vendor.

Solution If there's a graphics controller built into the motherboard of your computer, by changing your computer BIOS settings, you may be able to change which device controls your primary display. For more information, see your system manual.

Solution If you don't need to use the graphics card that's controlling your primary display, remove it from your computer. If your primary display is controlled by the motherboard of your computer, see your system manual for information on how to disable this graphics controller.

Cause The program you're using may not work properly with systems using more than one display at a time.

Solution An update may be available for the program you're using. This update may fix problems this program has with multi-display systems. For more information, contact the software distributor for the program you're using.

Solution W

Windows 2000/XP – For advanced users – To use a program that doesn't support multi-display systems, you can disable all displays other than your primary display:

1. Double-click the PowerDesk icon ( ) on your Windows taskbar to access the PowerDesk main interface. To see the PowerDesk icon in Windows XP, you may need to click the **Show hidden icons** button ( ) on your Windows taskbar.
2. Click **Multi-Display Setup**. Make sure you're using **1 display**.
3. Click **Start** → **Settings*** → **Control Panel** → **Performance and Maintenance*** → **System** (double-click*) → **Hardware** → **Device Manager**. (* Depending on your version and configuration of Windows, this part of the step may not be necessary.)
4. Click the plus sign to the left of the **Display adapters**.
5. For each display adapter, ***except*** for the one controlling your primary display, right-click the name of a display adapter, then click **Disable** → **Yes**.

> **Note:** Your primary display can't be disabled.

6. Restart your computer for changes to take effect.

> **Note:** To restore display adapters, repeat steps 3–5, but click **Enable** in step 5.

Problem W — Not all graphics cards in the computer are fully supported (Software doesn't work with a certain graphics card, or another graphics card doesn't work at all)

Cause

If you have different models of graphics cards in your computer, your Matrox display driver may not support all the graphics cards in your computer.

Solution

Under Windows 2000/XP, a display driver may support one or more graphics cards. If a display driver doesn't support a certain card, a different display driver must be used for that card. Software that depends on a certain display driver may not work with a graphics card that's not using the same display driver.

> **Note:** A Matrox driver package that supports multiple graphics cards may be available. For more information, see the Matrox Web site (www.matrox.com/mga).

Solution

If a graphics card isn't supported, you may need to remove it. If there's a graphics processor built into the motherboard of your computer that's not supported by your software, see your system manual for information on how to disable this graphics processor.

Cause **Windows 2000/XP** – If the Windows method for display driver installation was used (instead of running the setup program included with your Matrox display driver), the driver may not be installed for all the graphics cards it supports.

Solution Run the setup program included with the Matrox display driver. The setup program automatically installs the display driver for each Matrox graphics card it supports.

Problem W — In multi-display mode, displays aren't numbered consecutively

Cause If you have more than one graphics card in your computer, the display numbering may not be consecutive for the displays of a multiple-display card (for example, a DualHead supporting card). Display numbering depends on the types of expansion slots used in your computer (AGP and PCI) and the BIOS settings of your computer.

Solution **Windows* 2000/XP** – Move the displays in Windows.

(* Only while using multiple displays in *independant* mode. For more information, see PowerDesk help.)

1. Right-click your Windows desktop background, then click **Properties → Settings**.
2. Select a display and move it according to the physical position of the monitor it's associated with.

> **Note:** In multi-display mode, you may have limited control over the arrangement of your displays. For more information, see Matrox PowerDesk documentation.

Problem W — Screen image defects appear, program doesn't run properly, or Windows doesn't work properly

(example: mouse pointer not drawn properly)

Cause Some programs may not work properly with some Matrox acceleration.

Solution Disable specific types of software acceleration:

Windows 2000/XP –

1. Double-click the PowerDesk icon ( ) on your Windows taskbar to access the PowerDesk main interface. To see the PowerDesk icon in Windows XP, you may need to click the **Show hidden icons** button ( ) on your Windows taskbar.
2. Click **Help → Troubleshooting settings**.
3. Disable one or more features. For more information, see Matrox PowerDesk help.

4 Click **OK** or **Apply** for your changes to take effect. (Depending on the feature you disabled, you may have to restart your computer for the changes to take effect.)

Solution Disable Windows effects:

Windows 2000 –

1 Right-click your Windows desktop background, then click **Properties** → **Effects**.

2 Disable one or more features under **Visual effects**.

Windows XP –

1 Right-click your Windows desktop background, then click **Properties** → **Appearance** → **Effects**.

2 Disable one or more features.

Solution If possible, update your Matrox display driver. Matrox makes new display drivers available on the Matrox Web site (www.matrox.com/mga).

Note: If your Matrox product was provided by the manufacturer of your computer, check the Web site of that manufacturer for the latest display driver. A display driver provided by the manufacturer of your computer is more likely to be tested with your computer model.

Solution **Windows 2000/XP** – Disable Matrox hardware acceleration:

1 Right-click your Windows desktop background, then click **Properties** → **Settings** → **Advanced** → **Troubleshooting**.

2 Move the **Hardware acceleration** slider to **None**.

3 Click **OK** → **OK** to accept the changes.

Note: If you identify a program that doesn't work well with Matrox acceleration, please contact Matrox technical support (see page 30) and describe the problem. This information may help us come up with a fix or work-around in a future driver release.

Problem Program window or dialog box doesn't appear on screen

Cause Another window or dialog box may be covering the window or dialog box you want to see.

Solution Move, close, or minimize any window or dialog box that may be covering the window or dialog box you want to see.

Cause If you're using multi-display mode, the program window or dialog box may be in a display or on a monitor that's unusable. (For example, your monitor may not be properly connected or configured.)

Solution Make sure all the displays and monitors you want to use are usable. For more information, see other troubleshooting items in this guide.

Cause The software may be using a display you didn't intend to use or the software may be configured to use more displays than the actual number of monitors you have. (For example, you may be in DualHead Multi-Display mode but you only have one monitor.)

Solution Disable the display:

Windows* 2000/XP –

(* Only while using multiple displays in *independent* mode. For more information, see PowerDesk help.)

1. Right-click your Windows desktop background, then click **Properties → Settings**.
2. Select the display you want to disable, then clear the **Extend my Windows desktop onto this monitor** check box.

Cause The program window or dialog box may be somewhere off-screen.

Solution If the program window you want to see is named on the Windows taskbar, right-click on it and select **Maximize**. (If you click **Restore** the program window goes back to its previous position. To fix this problem, see the other solutions.)

Solution Manually move the program window or dialog box:

1. Press [Alt]+[Space].
2. If you see a pop-up menu, click **Move**. If you don't see a pop-up menu, press [M] (for **Move**).
3. Press on one of the arrow keys once and move your mouse pointer to where you want the window or dialog box to appear, then click. The program window or dialog box should appear where you clicked.

Solution **Windows 2000/XP –**

1. Double-click the PowerDesk icon ( ) on your Windows taskbar to access the PowerDesk main interface. To see the PowerDesk icon in Windows XP, you may need to click the **Show hidden icons** button ( ) on your Windows taskbar.
2. Click **Desktop Management**.

3 Enable one or more of the following features:

- **Open program windows**
- **Maximize windows**

4 Choose where you want the program window or dialog box to appear.

For more information, see Matrox PowerDesk context-sensitive help.

Problem Display on digital monitor appears blurry or uses only a portion of the screen

Cause You may be using a lower display resolution than what your digital monitor supports. If your monitor supports display scaling, the image on your screen may appear blurry. If display scaling isn't supported, the display may use only a portion of your screen.

Solution Select the highest display resolution available. This generally results in better image quality. (While using two digital monitors at the same time, certain limitations may apply. For more information, see page 23.)

Video

The following troubleshooting items address problems related to video files.

Problem Mouse pointer flickers or disappears when it's over a video window

Cause You may be using a customized mouse pointer. Windows draws customized mouse pointers in a way that may cause them to flicker or disappear while they're over a video window.

Solution

Windows 2000/XP – Use default Windows mouse pointers:

1 Click **Start** → **Settings*** → **Control Panel** → **Printers and Other Hardware*** → **Mouse** (double-click*). (* Depending on your version and configuration of Windows, this part of the step may not be necessary.)

2 Click the **Pointers** tab.

3 In the **Scheme** box, select (or reselect) "**(None)**", then click **OK**.

Display information

- Your Matrox graphics card is 100% VGA compatible and supports all VESA standards: VBE 2.0 (Super VGA modes), DPMS (energy saving), and DDC-2B (Plug-and-Play monitor).
- Your Matrox product supports DualHead features. *DualHead* features control 2 displays at a time.
- To get the most of your Matrox product, we recommend using the highest color palette setting (a 32-bit color palette) for all your displays.
- 3D acceleration is only available with a 16- or 32-bit color palette.
- The display resolutions and refresh rates available depend on your Matrox graphics card, display driver, software monitor settings, and monitor. For information on the capabilities of your monitor, see your monitor documentation.
- While using 1 or 2 displays at a time, your Matrox graphics card supports display resolutions up to 2048 × 1536.
- Your Matrox graphics card supports the highest refresh rates supported by most monitors. At the highest display resolution (2048 × 1536), your Matrox graphics card supports a vertical refresh rate of up to 85 Hz.
- While using 2 displays at a time, each monitor has its own monitor settings (refresh rates).
- While using 2 displays at a time ***both*** at the highest display resolution (2048 × 1536), certain display limitations may apply. (For example, video playback may be limited.)
- The highest display resolution supported for digital monitors is 1920 × 1200.
- If you're using BNC connectors with a Plug-and-Play monitor, the Plug-and-Play feature of your monitor can't be used. To use the Plug-and-Play feature of your monitor, instead of the BNC connectors, use the 15-pin connector at the back of your monitor.

Supported VESA modes (main display)

In the table below, VESA modes supported by your Matrox graphics card are indicated by a VESA mode number. Many Super VGA DOS programs use VESA modes.

Display resolution	16 colors	256 colors	32 K colors	64 K colors	16 M colors
640 × 400	—	100	—	—	—
640 × 480	(VGA)	101	110	111	112
800 × 600	—	103	113	114	115
1024 × 768	—	105	116	117	118
1280 × 1024	—	107	119	11A	11B
1600 × 1200	—	11C	11D	11E	11F

Hardware information

Features

	Matrox Parhelia Precision SGT
Graphics chip	Matrox Parhelia-512 GPU
DualHead-HF	✓
Main RAMDAC	400 MHz
Secondary RAMDAC	400 MHz
Memory	256 MB
Memory type	DDR (Double Data Rate) SDRAM
Card type	PCI* 64-bit, 66 MHz
Form factor	ATX
Connectors	1 × DVI-I, 1 × 3W3

* Also compatible with 32-bit, 33 MHz PCI slots and with 3.3- or 5-volt PCI slots.

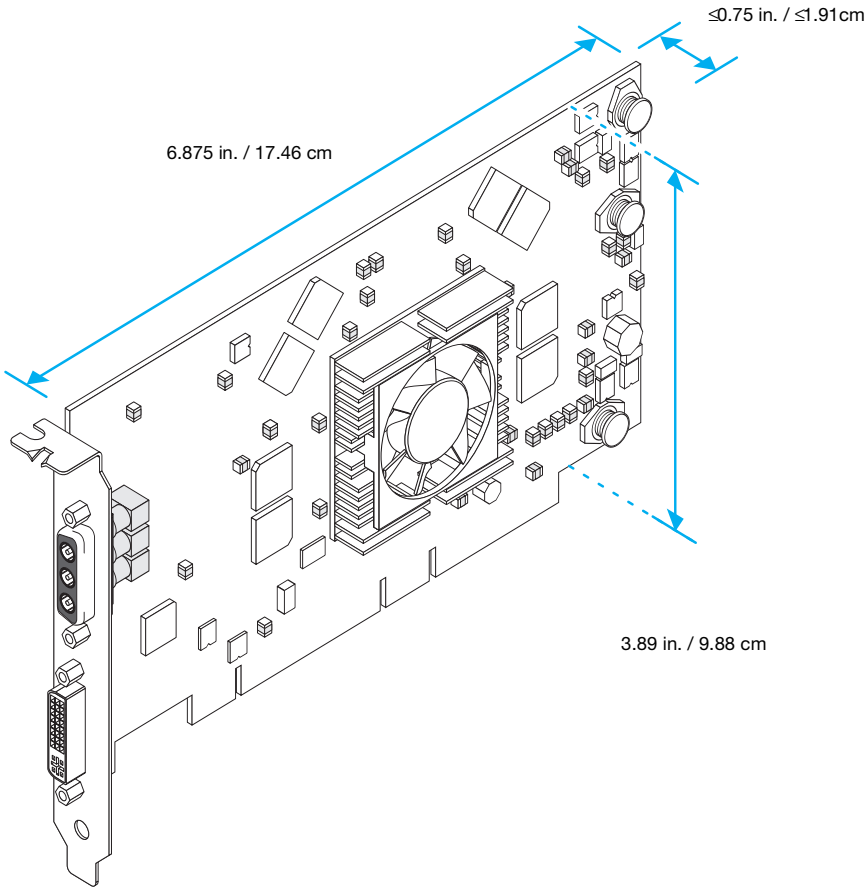
Environmental specifications

- Minimum/maximum ambient operating temperatures: 0 to 55 °C
- Minimum/maximum storage temperature: -40 to 75 °C
- Maximum altitude for operation: 3,000 meters
- Maximum altitude for transport: 12,000 meters
- Operating humidity: 20 to 80% relative humidity (non-condensing)
- Storage humidity: 5 to 95% relative humidity (non-condensing)

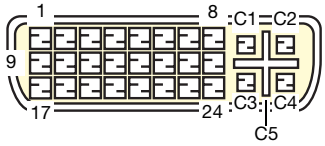
Digital monitor information

- TMDS (Transition Minimized Differential Signaling) encoding based on the Silicon Image PanelLink standard
- DDWG (Digital Display Working Group) compliant DVI connector
- EDID (Extended Display Identification Data) 1.2, 1.3 (without the extended data block), and 2.0 support

Maximum card dimensions – Matrox Parhelia Precision SGT



Pin usage for a digital (DVI-I) connector



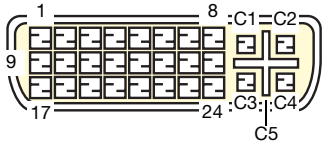
Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS data 2–	9	TMDS data 1–	17	TMDS data 0–
2	TMDS data 2+	10	TMDS data 1+	18	TMDS data 0+
3	TMDS data 2/4 shield	11	TMDS data 1/3 shield	19	TMDS data 0/5 shield
4	TMDS data 4–	12	TMDS data 3–	20	TMDS data 5–
5	TMDS data 4+	13	TMDS data 3+ (3D-sync-out*)	21	TMDS data 5+
6	DDC clock	14	+5 V power*	22	TMDS clock shield
7	DDC data	15	Ground* (for +5 V, Hsync, & VSync)	23	TMDS clock+
8	Analog vertical sync	16	Hot plug detection	24	TMDS clock–
C1	Analog red	C3	Analog blue	C5	Analog ground (Analog R, G, & B return)
C2	Analog green	C4	Analog horizontal sync		

* Used with the stereo-output adapter.

Pin usage for a stereo-output connector (mini DIN, 3 pins)

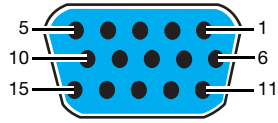
Pin	Signal
1	Ground
2	+5 V power
3	3D-sync-out

Pin usage for an analog dual-monitor adapter (DVI-I to HD-15)



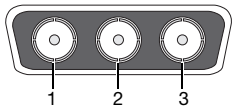
Pin	Signal	Pin	Signal	Pin	Signal
1	TMDS data 2–	9	TMDS data 1–	17	TMDS data 0–
2	TMDS data 2+	10	TMDS data 1+	18	TMDS data 0+
3	TMDS data 2/4 shield	11	TMDS data 1/3 shield	19	TMDS data 0/5 shield
4	Analog red (2)	12	TMDS data 3–	20	Analog blue (2)
5	Analog horizontal sync (2)	13	TMDS data 3+	21	DDC Clock (2)
6	DDC clock (1)	14	+5 V power	22	TMDS clock shield
7	DDC data (1)	15	Ground (for +5 V, Hsync, & VSync)	23	TMDS clock+
8	Analog vertical sync (1)	16	Hot plug detection	24	TMDS clock–
C1	Analog red (1)	C3	Analog blue (1)	C5	Analog ground (Analog R, G, & B return) (1)
C2	Analog green (1)	C4	Analog horizontal sync (1)		

Pin usage for an analog (HD-15) connector



Pin	Signal	Pin	Signal	Pin	Signal
1	Analog red output	6	Ground	11	—
2	Analog green output	7	Ground	12	SDA (DDC)
3	Analog blue output	8	Ground	13	TTL horizontal sync
4	—	9	+5 V (DDC)	14	TTL vertical sync
5	Ground	10	Ground	15	SCL (DDC)

Pin usage for a 3W3 connector



Pin	Signal
1	TTL horizontal sync
2	TTL vertical sync
3	Analog green output

Customer support

Matrox Web

Matrox is on the Internet with a World Wide Web (WWW) site. Our Web site has product literature, press releases, technical material, a sales office list, trade show information, and other relevant material.

- Visit the Matrox Graphics Web site at: www.matrox.com/mga/
- E-mail questions or comments regarding the site to: webmaster@matrox.com

If you have a problem

Matrox values your business and offers preferred support for your Matrox product. For product support, contact your Matrox representative or do one of the following:

- Visit our technical support Web site at www.matrox.com/mga/support/tech_support/home.cfm.
- Visit our technical support forum at www.matrox.com/mga/support/forum/agree.cfm.
- See our FAQs (Frequently Asked Questions) at http://forum.matrox.com/cgi-bin/mgaforum/Ultimate.cgi#faq.
- Write a letter to Graphics Customer Support at our Corporate Headquarters. The address is: Matrox Graphics Inc., 1055 St. Regis Blvd., Dorval, QC, Canada, H9P 2T4.

Information we need

Please give a complete description of the problem, and include:

- Matrox card serial number, model number, revision number, BIOS number, driver type and version, and memory address at which the Matrox card is installed.
- Computer brand name, system BIOS manufacturer and version number or date, bus type, model, processor speed, and amount of memory.
- Monitor brand and model name.
- Operating system and version – if you're using a memory manager, its brand and version. Also, list any memory-resident programs in use.
- If you're using a network card, its brand and version.
- Brand and model of any other cards and devices installed on your system.

Program-specific problems

If a problem appears with a specific program, please give us the following information:

- Display settings (color palette, display resolution, and so on) applied when the problem occurs.
- Program name and version. Name any add-on packages you're using.
- If possible, take note of the file and segment address that caused the problem.
- Detailed steps known to cause the bug, so we can reproduce it.

Where to get information

For display information:

Windows 2000/XP –

1. Double-click the PowerDesk icon ( ) on your Windows taskbar to access the PowerDesk main interface. To see the PowerDesk icon in Windows XP, you may need to click the **Show hidden icons** button ( ) on your Windows taskbar.
2. Click **Information**.

For system information:

- **Windows 2000** – Right-click the **My Computer** icon on your Windows desktop background, then click **Properties**.
- **Windows 2000/XP** – Click **Start → Programs → Accessories → System Tools → System Information**.
- **Windows XP** – Click **Start → Settings*** **→ Control Panel → Performance and Maintenance*** **→ System** (double-click*). (* Depending on your configuration of Windows, this part of the step may not be necessary.)

Warranty

A. Limited Warranty Statement

1. Matrox Graphics Inc. (“Matrox”) warrants to the end-user customer, who provides adequate proof of purchase that Matrox hardware products purchased from Matrox authorized dealers will be free from defects in materials and workmanship for a period of three (3) years from the date of purchase. This warranty applies only to the original end-user purchaser and is non-transferable. Conditions and limitations of Matrox’s warranty are stated below.
2. Matrox’s limited warranty covers only those defects which arise as a result of normal use of the hardware and does not apply to any:
   - **a.** improper or inadequate maintenance;
   - **b.** incompatibilities due to the user’s hardware or software applications with or in which the Matrox product interfaces;
   - **c.** product of a special or custom-made nature;
   - **d.** unauthorized modification or misuse;
   - **e.** improper installation, misapplication or negligence;
   - **f.** operation outside the product’s environmental specifications;
   - **g.** improper site preparation or maintenance;
   - **h.** software;
   - **i.** other causes that do not relate to a product defect;
   - **j.** defects or damage suffered as a result of force majeure (including theft);
   - **k.** defects or damage suffered as a result of normal wear and tear; and/or
   - **l.** stolen goods.
3. If Matrox receives, during the applicable warranty period, notice of a defect in a warranted hardware product and the defective Matrox product in question, Matrox shall at its sole option, either repair or replace the product, and shall return the repaired product or a replacement product within a reasonable delay. The replacement product may not be new, provided that it has functionality at least equal to that of the product being replaced.
4. This warranty is valid in any country where Matrox hardware products are distributed by Matrox or its authorized dealers.
5. This Limited Warranty Statement gives the customer specific legal rights. The customer may also have other rights which vary from state to state in the United States, from province to province in Canada, and from country to country elsewhere in the world.

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3. To the extent allowed by local law, the remedies provided in this Limited Warranty Statement are the customer’s sole and exclusive remedies.

C. Limitations of Liability

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   a. any direct, indirect, special, incidental, consequential, foreseeable or unforeseeable, or punitive damages, whether based on contract, tort, delict or any other legal theory and whether advised of the possibility of such damages; and/or
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3. To the extent allowed by local law, Matrox's entire liability and the customer's exclusive remedy shall be the repair or replacement of any defective product during the warranty period. Matrox does not offer any other warranty with respect to Matrox hardware or software or any other hardware or software.
4. Customer shall be responsible for all applicable taxes, duties and customs fees on any replacement unit, as well as all transport, insurance, storage and other charges incurred on all returned products.

D. Obtaining Service

1. Verify that your Matrox product was installed and configured according to the information in its accompanying documentation.
2. Read the "Troubleshooting" information included with the Matrox product to see if you can solve the problem yourself.
3. If you are still experiencing difficulties, please contact your dealer where you purchased your Matrox product.
4. If you must return a Matrox product, leave the configuration as it was when you were using it, and leave all identification stickers on the product. Pack the product in its original box and return to your Matrox dealer where the product was purchased, together with your proof of purchase. Your Matrox dealer will return the product for you. Alternatively, if this first option is unavailable to you, you may contact the Matrox Technical Support group who will issue an Return Merchandise Authorization (RMA) number, upon receipt of adequate proof of purchase, and inform you of shipping instructions. DO NOT RETURN THE PRODUCT TO MATROX WITHOUT MATROX'S RMA NUMBER AND EXPRESS AUTHORIZATION.

E. General

This limited warranty shall be governed by the laws of the Province of Quebec, Canada and the federal laws of Canada applicable therein and the courts of the Province of Quebec shall have exclusive jurisdiction to hear and decide any dispute instituted by the customer in connection with this limited warranty; the customer waives, by accepting the product, its rights to institute proceedings in connection with this warranty against Matrox in any jurisdiction other than Quebec.

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USA

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WARNING Changes or modifications to this unit not expressly approved by the party responsible for the compliance could void the user's authority to operate this equipment. The use of shielded cables for connection of the monitor to the card is required to meet FCC requirements.

Declaration of conformity of a Class B digital device according to the FCC rules

We, the Responsible Party Matrox, 625 State Route 3, Unit B, Plattsburg, NY 12901 • Telephone: (514) 822-6000 (extension 2026) • Attention: Conformity Group Matrox

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CANADA

(English) Industry Canada Compliance Statement

Remark for the Matrox hardware products supported by this guide These digital devices do not exceed the Class B limits for radio noise emission from digital devices set out in the Radio Interference Regulation of Industry Canada.

(Français) Conformité avec les exigences du ministère de l'Industrie Canada

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JAPAN

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(Français) Informations aux utilisateurs Européens – Déclaration de conformité

Remarque sur les produits matériels Matrox couverts par ce guide Ces unités sont conformes à la directive communautaire 89/336/EEC pour les unités numériques de classe B. Les tests effectués ont prouvé qu'elles sont conformes aux normes EN55022/CISPR22 et EN55024/CISPR24. Le fonctionnement de ces produits dans un environnement résidentiel peut causer des interférences radio, dans ce cas l'utilisateur peut être amené à prendre les mesures appropriées. Pour respecter les impératifs communautaires, les câbles de connexion entre le moniteur ou autres périphériques et la carte doivent être blindés. Ces produits ont été testés dans un système hôte typique compatible classe B. On suppose qu'ils présenteront la même compatibilité dans tout système compatible classe B.

(Deutsch) Information für europäische Anwender – Konformitätserklärung

Anmerkung für die Matrox Hardware-Produktunterstützung durch dieses Handbuch Diese Geräte entsprechen EC Direktive 89/336/EEC für ein digitales Gerät Klasse B. Sie wurden getestet und entsprechen demnach EN55022/CISPR22 und EN55024/CISPR24. In einer Wohnumgebung können diese Produkte Funkinterferenzen erzeugen, und der Benutzer kann genötigt sein, entsprechende Maßnahmen zu ergreifen. Um EG-Anforderungen zu entsprechen, müssen zum Anschließen des Monitors und anderer Peripheriegeräte an die Karte abgeschirmte Kabel verwendet werden. Diese Produkt wurden in einem typischen, der Klasse B entsprechenden, Host-System getestet. Es wird davon ausgegangen, daß diese Produkte auch in jedem Klasse B entsprechenden System entsprechend funktionieren.

(Italiano) Informazioni per gli utenti europei – Dichiarazione di conformità

Nota per i prodotti hardware Matrox supportati da questa guida Questi dispositivi sono conformi alla direttiva CEE 89/336/EEC relativamente ai dispositivi digitali di Classe B. Sono stati provati e sono risultati conformi alle norme EN55022/CISPR22 e EN55024/CISPR24. In un ambiente domestico, questi prodotti possono causare radiointerferenze, nel qual caso all'utente potrebbe venire richiesto di prendere le misure adeguate. Per soddisfare i requisiti CEE, il monitor e le altre periferiche vanno collegati alla scheda grafica con cavi schermati. Questi prodotti sono stati provati in un tipico sistema host conforme alla classe B. Inoltre, si dà per scontato che questi prodotti acquisiranno la conformità in qualsiasi sistema conforme alla classe B.

(Español) Información para usuarios europeos – Declaración de conformidad

Observación referente a los productos de hardware de Matrox apoyados por este manual Estos dispositivos cumplen con la directiva de la CE 89/336/EEC para dispositivos digitales de Clase B. Dichos dispositivos han sido sometidos a prueba y se ha comprobado que cumplen con las normas EN55022/CISPR22 y EN55024/CISPR24. En entornos residenciales, estos productos pueden causar interferencias en las comunicaciones por radio; en tal caso el usuario deberá adoptar las medidas adecuadas. Para satisfacer las disposiciones de la CE, deberán utilizarse cables apantallados para conectar el monitor y demás periféricos a la tarjeta. Estos productos han sido sometidos a prueba en un típico sistema anfitrión que responde a los requisitos de la clase B. Se supone que estos productos cumplirán también con las normas en cualquier sistema que responda a los requisitos de la clase B.

FRANCE

Avertissement sur l'épilepsie

À lire avant toute utilisation d'un jeu vidéo par vous-même ou votre enfant Certaines personnes sont susceptibles de faire des crises d'épilepsie ou d'avoir des pertes de conscience à la vue de certains types de lumières clignotantes ou d'éléments fréquents dans notre environnement quotidien. Ces personnes s'exposent à des crises lorsqu'elles regardent certaines images télévisées ou qu'elles jouent à certains jeux vidéo. Ces phénomènes peuvent apparaître alors même que le sujet n'a pas d'antécédent médical ou n'a jamais été confronté à une crise d'épilepsie.

Si vous-même ou un membre de votre famille avez déjà présenté des symptômes liés à l'épilepsie (crise ou perte de conscience) en présence de stimulations lumineuses, veuillez consulter votre médecin avant toute utilisation.

Nous conseillons aux parents d'être attentifs à leurs enfants lorsqu'ils jouent avec des jeux vidéo. Si vous-même ou votre enfant présentez un des symptômes suivants: vertige, trouble de la vision, contraction des yeux ou des muscles, perte de conscience, trouble de l'orientation, mouvement involontaire ou convulsion, veuillez immédiatement cesser de jouer et consultez un médecin.

Précautions à prendre dans tous les cas pour l'utilisation d'un jeu vidéo • Ne vous tenez pas trop près de l'écran. • Jouez à bonne distance de l'écran de TV et aussi loin que le permet le cordon de raccordement. • Utilisez de préférence les jeux de vidéo sur un écran de petite taille. • Évitez de jouer si vous êtes fatigué ou si vous manquez de sommeil. • Assurez-vous que vous jouez dans une pièce bien éclairée. • En cours d'utilisation, faites des pauses de dix à quinze minutes toutes les heures.

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